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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,969	06/21/2000	Roberto Aiello	FAN-00-012	7157

7590

06/30/2004

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EXAMINER

AHN, SAM K

ART UNIT PAPER NUMBER

2634

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/599,969

Applicant(s)

AIELLO ET AL.

Examiner

Sam K. Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on amendment, received on 4/2/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-27 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-27 is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on 4/2/04 have been fully considered but they are not persuasive. On page 13-14, applicants argue that Fullerton ('927) does not explicitly teach all the subject matter by pointing out that Fullerton teaches away from the claimed recitation (col.9, lines 29-34). The description of Fullerton teaching away is part of "Technology Basics", which does not describe the invention of Fullerton, but describe the basic concepts of an impulse radio (see col.6, lines 5-34 and col.7, lines 56 – col.12, line 33). The description of the invention begins from The Subcarrier Invention on col.12, line 34. Therefore, the argument that Fullerton teaches away from the claimed recitation is part of the basic concepts of an impulse radio, rather than Fullerton's invention. As previously explained in the last Office Action, Fullerton discloses that in the data modulation unit comprises a pulse amplitude modulation (1022), which modulates the received data from information source (1018) and performs amplitude modulation. (note col.14, lines 44-58) ) It is well-known in the art that amplitude modulation functions by varying the amplitude of data.

### ***Election/Restrictions***

2. Claims 12-16 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking

claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10.

3. This application contains claims 12-16 drawn to an invention nonelected with traverse in the reply filed on 4/2/04. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

#### ***Information Disclosure Statement***

4. The information disclosure statement (IDS) of reference (no. 61) filed on 4/3/02 was submitted on 4/2/04 in reply to the first office action, and is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fullerton ('927).

Regarding claim 1, Fullerton discloses a transmitter system (see Fig.10), comprising a data modulation unit (1008, 1016 and 1204 in Fig.10) configured to generate a digital data stream of pulse data which is synchronized with a master clock provided by time base (1002). A transmitter unit (1028) coupled to the data modulation unit receives said digital data stream of pulse data generated a radio

frequency pulse stream. Further, an antenna (1030) coupled to the transmitter unit transmits said RF pulse stream. (note col.13, line 23 – col.15, line 62) Fullerton further discloses said RF pulse stream is an ultra wide band pulse stream. (note col.14, lines 15-17) Fullerton also discloses that in the data modulation unit comprises a pulse amplitude modulation (1022), which modulates the received data from information source (1018) and performs amplitude modulation. (note col.14, lines 44-58) It is well-known in the art that amplitude modulation functions by varying the amplitude of data.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton ('927).

Regarding claim 4, Fullerton discloses all subject matter claimed, as applied to claim 1. Fullerton further teaches pulse repetition frequency which is configured to vary the pulse repetition frequency between 0.7 and 10 megapulse per second. (note col.9, lines 6-27) Fullerton teaches pulse generated modulation is further required. Although Fullerton does not explicitly disclose the pulse repetition frequency module comprised in the data modulation unit, it would

have been obvious to one skilled in the art at the time of invention to include the function of pulse repetition frequency in the data modulation unit as it is necessary for the generated pulses to be modulated in order to transmit through the antenna.

Regarding claim 5, Fullerton discloses all subject matter claimed, as applied to claim 1. Fullerton, as explained previously, teaches data modulation unit comprising pulse repetition frequency module and pulse amplitude modulation module. Fullerton, also teaches method of producing different modulation schemes. (note col.14, lines 44-57) Although Fullerton does not explicitly disclose the two module operatively coupled, it would have been obvious to one skilled in the art at the time of invention to implement as such for the purpose of properly producing different modulation schemes, such as FM, AM, FSK, PSK and pulsed FM.

***Allowable Subject Matter***

7. Claims 17-27 are allowed.
8. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:  
Prior art discloses a transmitter transmitting an ultra wide band pulse stream

produced by the transmitter comprising a data modulation unit, a transmitter unit and an antenna where the data modulation unit further comprises a pulse repetition frequency module and a pulse amplitude modulation module where the two modules are coupled to a transmit module, which is configured to distinguish between different modulation techniques. Closest prior art, Fullerton ('927) teaches, in the same field of endeavor, a transmitter comprising all the elements as recited in the claims 1-5. However, Fullerton does not explicitly teach a transmit module coupled to the pulse repetition frequency module and pulse modulation module configured to distinguish between different modulation techniques. Therefore, prior art does not teach all the limitation as recited in claim 6. Further prior art does not teach all the elements recited in the independent claims 17, 19 and 21 comprised in a transmitter.

### ***Conclusion***

**10. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450


**or faxed to:**

**(703) 872-9306**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn  
6/27/04



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**